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## (12) United States Patent

#### Roberts et al.

## (54) METHOD AND APPARATUS FOR PRESENTING MEDIA PROGRAMS

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 G06F 15/00
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CPC ... **H04N 21/47205** (2013.01); **H04N 21/42225** (2013.01); **H04N 21/4788** (2013.01); **H04N** 21/8547 (2013.01)

#### (58) Field of Classification Search

#### (56) References Cited

#### U.S. PATENT DOCUMENTS

5,223,924 A 6/1993 Strubbe 5,920,694 A 7/1999 Carleton (Continued)

#### OTHER PUBLICATIONS

Chorianopoulos, "Content-Enriched Communication—Supporting the Social Uses of TV", 10-page article, The Journal of the Communications Network, vol. 6, Part 1, Jan.-Mar. 2007, 10 pages.

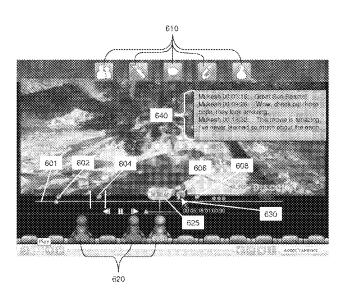
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#### (57) ABSTRACT

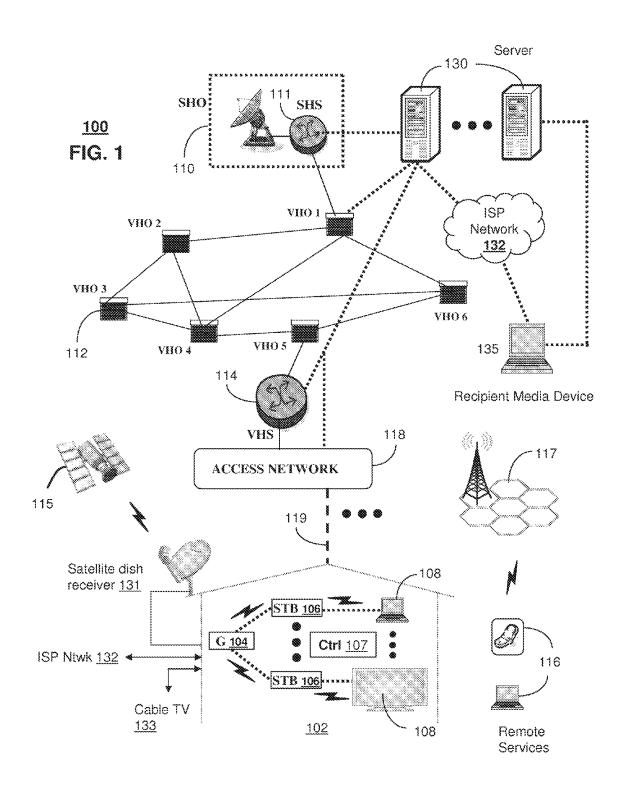
Systems and processes that incorporate teachings of the present disclosure may include, for example, determining a temporal action initiated by equipment of a user of a plurality of users, while a media program is presented to a display of the equipment of the user. A symbolic overlay is generated comprising an iconic symbol corresponding to the temporal action. The symbolic overlay is provided, and when presented together with the media program at the display, comprises a linear presentation of a timeline corresponding to a temporal progression of the media program and the iconic symbol situated in relation to the linear presentation of the timeline when displayed. Other embodiments are disclosed.

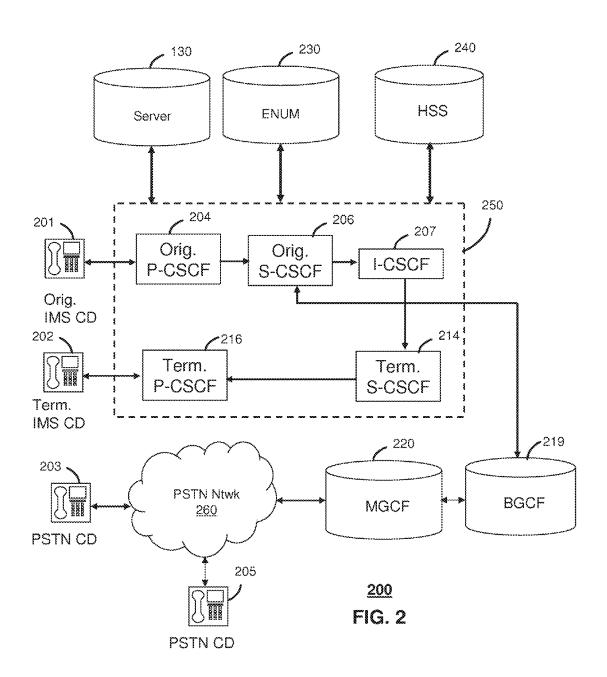
#### 20 Claims, 8 Drawing Sheets



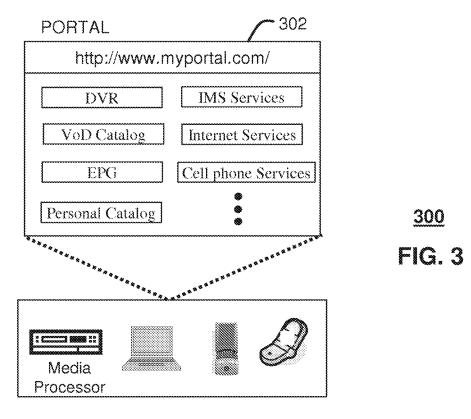
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(51) Int. Cl.  #04N 21/4788 (2011.01)  #04N 21/422 (2011.01)  #04N 21/8547 (2011.01)  (56) References Cited	2006/0190966       A1       8/2006       McKissick         2006/0218481       A1       9/2006       Adams, Jr.         2006/0259355       A1       11/2006       Farouki         2006/0271997       A1       11/2006       Jacoby         2006/0288041       A1       12/2006       Plastina         2007/0011039       A1       1/2007       Oddo         2009/0196516       A1*       8/2009       Perlman et al.       382/239
U.S. PATENT DOCUMENTS	OTHER PUBLICATIONS
6,272,231 B1 8/2001 Maurer 6,357,042 B2 3/2002 Hosken 6,567,797 B1 5/2003 Schuetze 6,580,811 B2 6/2003 Maurer 6,732,146 B1 5/2004 Miyake 6,792,412 B1 9/2004 Sullivan 6,948,131 B1 9/2005 Neven 7,031,931 B1 4/2006 Meyers 7,051,352 B1 5/2006 Schaffer 7,240,092 B2 7/2007 Houghton 7,380,260 B1 5/2008 Billmaier 8,051,447 B2 11/2011 Stallings 2002/0010759 A1 1/2002 Hitson 2002/0059094 A1 5/2002 Hosea 2002/0097265 A1 7/2002 Kurapati 2002/0178057 A1 11/2002 Gutta 2002/0178057 A1 11/2002 Gutta 2002/0193066 A1 1/2002 Gutta 2002/0194586 A1 12/2002 Connelly 2002/0194586 A1 12/2002 Gutta 2002/0194586 A1 12/2002 Gutta 2003/00606068 A1 4/2003 Gutta 2003/00334805 A1 12/2002 Gutta 2003/0334805 A1 12/2002 Toyama 2004/0003392 A1 1/2004 Trajkovic 2004/0064526 A1 4/2004 Lee 2005/0144632 A1 6/2005 Mears 2005/0144632 A1 6/2005 Mears 2006/0020614 A1 1/2006 Kolawa 2006/0026502 A1 2/2006 Nikik	Coppens, "AmigoTV: Towards a Social TV Experience", Alcatel Bell R&I Residential Networked Applications, 4-page article, Apr. 1, 2004.  Georgia Tech, "Avatar Theater—Experimental TV Lab at Georgia Lab", 2-page article, http://etv.gatech.edu/ projects/avatar-theater/, web site last visited Jan. 20, 2010.  Khadraoui, "Interactive TV Show Based on Avatars", IEEE: Systems Communications, 2005, Proceedings, Aug. 17, 2005, pp. 192-197.  Luyten, "Telebuddies: Social Stitching with Interactive Television", Hassett University—Transnationale Universiteit Limburg, Belgium, 6-page article, CHI 2006, Apr. 22-27, 2006.  Nathan, "CollaboraTV: Making Television Viewing Social Again", pp. 85-94, axTV'08, Oct. 22-24, 2008.  Oehlberg, "Designing for Distributed, Sociable Television Viewing", Stanford University, Mechanical Engineering, Palo Alto Research Center, 10-page article, May 2006.  Weisz, "Watching Together: Integrating Text Chat with Video", Carnegie Mellon University/University of Minnesota, 10-page article, CHI 2007, Apr. 28-May 3, 2007.  www.youtube.com, "Netflix Party on XBox Live", 3-page article, http://www.youtube.com/watch? v=_FuPxEC8Tfc &feature=related, web site last visited Jan. 20, 2010.  **cited by examiner
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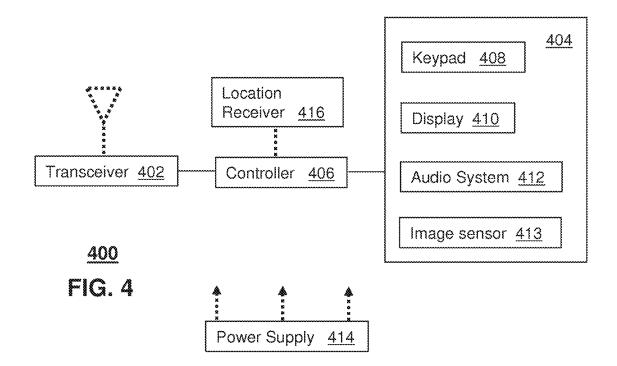


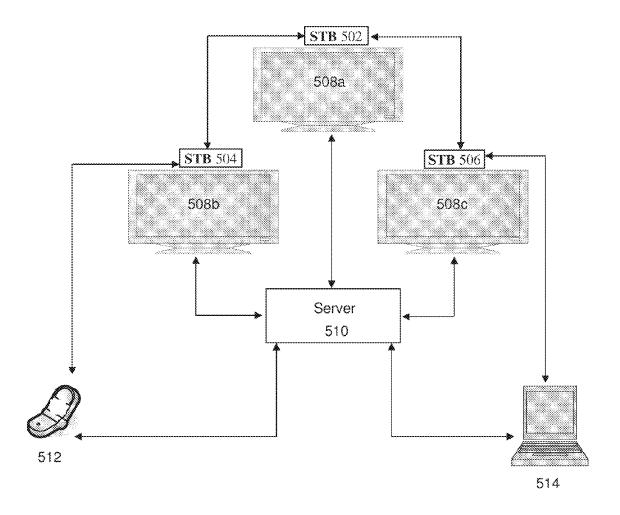


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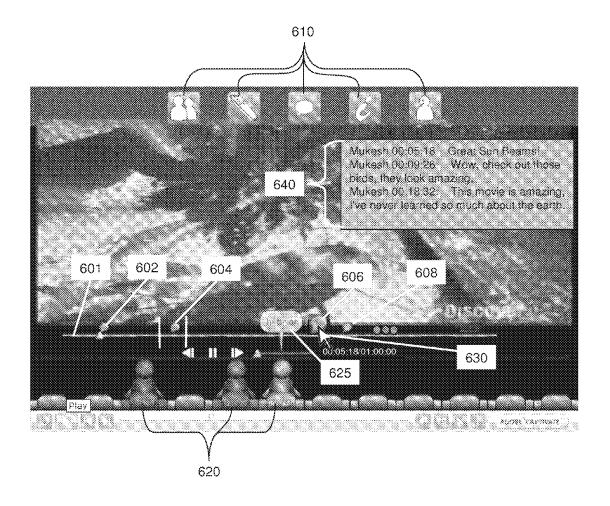


Communication Devices

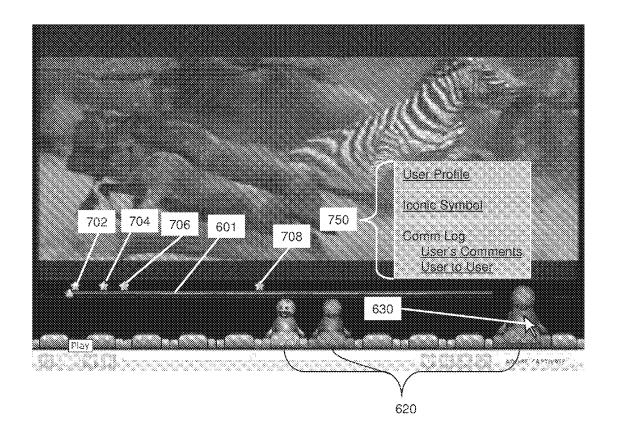




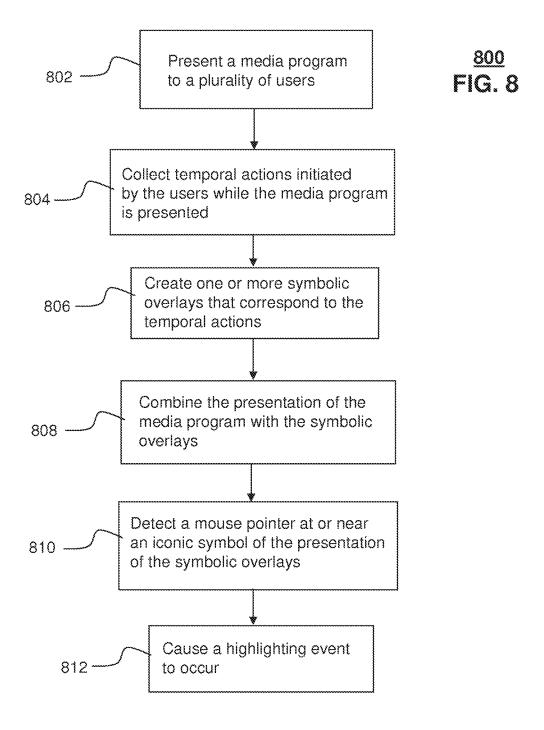
<u>500</u> FIG. 5



<u>600</u> FIG. 6



<u>700</u> FIG. 7



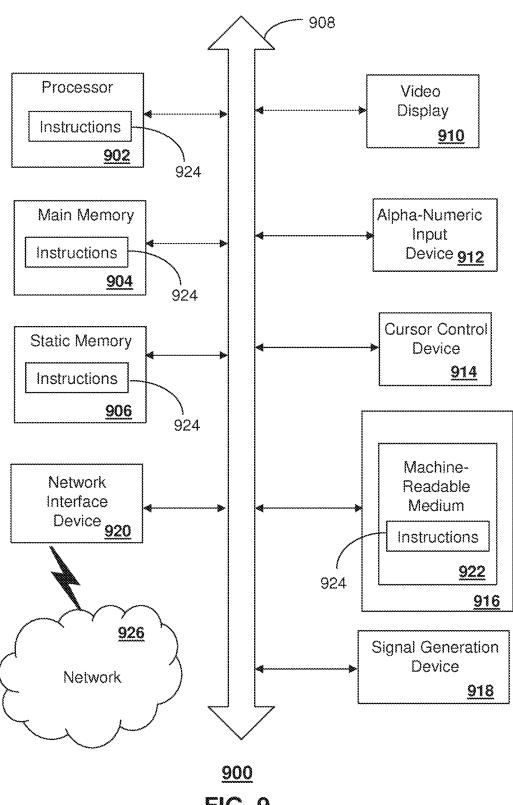


FIG. 9

## METHOD AND APPARATUS FOR PRESENTING MEDIA PROGRAMS

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of and claims priority to U.S. patent application Ser. No. 13/658,168, filed Oct. 23, 2012, which is a continuation of and claims priority to U.S. patent application Ser. No. 12/615,850, filed Nov. 10, 2009 (now U.S. Pat. No. 8,316,303). The contents of each of the foregoing are hereby incorporated by reference into this application as if set forth herein in full.

#### FIELD OF THE DISCLOSURE

The present disclosure relates generally to media presentation techniques and, more specifically, to a method and apparatus for presenting media programs.

#### BACKGROUND OF THE DISCLOSURE

Consumers have a number of venues to access media content. For example, consumers can view video content supplied by social networking portals such as MySpace, Face-Book, and YouTube over an Internet browser. Similarly, consumers can view via a set-top box video content supplied by an Internet Protocol Television (IPTV) communication system, a satellite TV communication system, and/or a cable TV communication system. Other forms of media content such as audio content, pictures, articles, or combinations thereof can also be accessed by consumers over a public network such as the Internet.

Consumers can share with others their thoughts about media content they have consumed by word of mouth, text messaging (e.g., email), or other forms of common communication.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1-2 depict illustrative embodiments of communication systems that provide media services;

FIG. 3 depicts an illustrative embodiment of a portal interacting with the communication systems of FIGS. 1-2;

FIG. 4 depicts an illustrative embodiment of a communication device utilized in the communication systems of FIGS.

FIG. 5 depicts an illustrative embodiment of a system for transmitting media content, the system being operable in the communication systems of FIGS. 1-2;

FIGS. 6 and 7 depict screenshots featuring a graphic user interface (GUI) in the form of an overlay illustrating commentary on a timeline associated with a media program;

FIG. **8** depicts an illustrative embodiment of a method for transmitting media content operating in portions of the communication systems of FIGS. **1-2** and **5**; and

FIG. 9 is a diagrammatic representation of a machine in the form of a computer system within which a set of instructions, when executed, may cause the machine to perform any one or more of the methodologies discussed herein.

#### DETAILED DESCRIPTION OF THE DRAWINGS

One embodiment of the present disclosure can entail a method, including: presenting each of a plurality of users a 65 media program; collecting one or more temporal actions initiated by the plurality of users while the media program is

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presented; creating one or more symbolic overlays corresponding to the one or more temporal actions of each user; combining the presentation of the media program with a presentation of the one or more symbolic overlays; detecting a mouse pointer at or near an iconic symbol of the presentation of the one or more symbolic overlays; and causing a highlighting event to occur.

Another embodiment of the present disclosure can entail a computer readable storage medium, including a program for instructing a computer to: receive temporal actions initiated by a plurality of users while presenting media content to the plurality of users; combine a presentation of the media content with a presentation of a symbolic overlay generated from the temporal actions; perform a highlighting event when a cursor of a user input device is positioned at or near a symbol of the presentation of the symbolic overlay.

Yet another embodiment of the present disclosure can entail a computing device, including a controller to: transmit a client program having a graphical user interface (GUI) to a media device operating in an interactive television (iTV) network, wherein the client program presents a symbolic overlay that superimposes onto media content received by the media device and enables the media device to associate comments with the media content received at the media device, and wherein the comments are presented by at least one symbol in a temporal vicinity of the media content; and perform a highlighting event when a cursor of an input device is positioned at or near the at least one symbol of the presentation of the symbolic overlay.

One or more of the exemplary embodiments are related to embodiments described in U.S. patent application Ser. No. 12/146,131, filed Jun. 25, 2008, by Amento et al., entitled "Method and Apparatus for Presenting Media Programs." All sections of the aforementioned application are incorporated herein by reference.

FIG. 1 depicts an illustrative embodiment of a first communication system 100 for delivering media content. The communication system 100 can represent an Internet Protocol Television (IPTV) broadcast media system. The IPTV media system can include a super head-end office (SHO) 110 with at least one super headend office server (SHS) 111 which receives media content from satellite and/or terrestrial communication systems. In the present context, media content can represent audio content, moving image content such as videos, still image content, or combinations thereof. The SHS server 111 can forward packets associated with the media content to video head-end servers (VHS) 114 via a network of video head-end offices (VHO) 112 according to a common multicast communication protocol.

The VHS 114 can distribute multimedia broadcast programs via an access network 118 to commercial and/or residential buildings 102 housing a gateway 104 (such as a common residential or commercial gateway). The access network 118 can represent a group of digital subscriber line access multiplexers (DSLAMs) located in a central office or a service area interface that provide broadband services over optical links or copper twisted pairs 119 to buildings 102. The gateway 104 can use common communication technology to distribute broadcast signals to media processors 106 such as Set-Top Boxes (STBs) which in turn present broadcast channels to media devices 108 such as computers or television sets managed in some instances by a media controller 107 (such as an infrared or RF remote control).

The gateway 104, the media processors 106, and media devices 108 can utilize tethered interface technologies (such as coaxial or phone line wiring) or can operate over a common wireless access protocol. With these interfaces, unicast com-

munications can be invoked between the media processors **106** and subsystems of the IPTV media system for services such as video-on-demand (VoD), browsing an electronic programming guide (EPG), or other infrastructure services.

Some of the network elements of the IPTV media system 5 can be coupled to one or more computing devices 130 a portion of which can operate as a web server for providing portal services over an Internet Service Provider (ISP) network 132 to wireline media devices 108 or wireless communication devices 116 by way of a wireless access base station 117 operating according to common wireless access protocols such as Wireless Fidelity (WiFi), or cellular communication technologies (such as GSM, CDMA, UMTS, WiMAX, Software Defined Radio or SDR, and so on).

The first communication system 100 can also include a recipient media device 135. The recipient media device 135 can be communicatively linked to the ISP network 132, the one or more computing devices 130, and to other devices in the system 100. The recipient media device 135 can be a STB, mobile device, personal computer, telephone, personal digital assistant (PDA), or other device capable of receiving and transmitting media content. Furthermore, the recipient media device 135 can be configured to be operative in an iTV network, which can include, but is not limited to including, 25 IPTV, interactive cable television, and interactive satellite television.

The recipient media device 135 can be configured to transmit requests for media content and commentary associated with the media content from devices in the system 100. The 30 commentary can be user-generated and can be in a temporal vicinity of the associated media content. The media content and associated commentary can come from devices such as, but is not limited to, STBs 106, media devices 108, and wireless communications device 116. The media content and 35 associated commentary can include video content, audio content, still image content, text content, and other media content. Additionally, the recipient media device 135 can be configured to receive and respond to requests from devices in the system 100 for media content and commentary associated 40 with the media content. In responding to the requests from the devices, the recipient media device 135 can transmit media content and commentary associated with the recipient media device 135 to the requesting devices.

Another distinct portion of the computing devices 130 can 45 function as a server (herein referred to as server 130). The server 130 can use common computing and communication technology to perform the function of receiving, transmitting, maintaining, processing, and storing various types of content. As mentioned above, such content can include video content, 50 audio content, still image content, text content, and other content. The server 130 can maintain a client program, which can be downloaded and/or accessed by the devices in the system 100. The client program can be configured to present an overlay that can be superimposed onto the media content 55 and can allow users of the devices in the system 100 to associate a comment with media content received at the devices.

Additionally, the server 130 can be configured to receive requests for the media content and commentary associated 60 with the media content from the devices in the system 100, such as the recipient media device 135 and the STBs 106. Furthermore, the server 130 can relay and/or store the actual media content and/or the commentary associated with the media content, and/or relay links to the media content and/or commentary associated with the media content to the devices in the system 100 requesting the content and/or commentary.

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It will be appreciated by an artisan of ordinary skill in the art that a satellite broadcast television system can be used in place of the IPTV media system. In this embodiment, signals transmitted by a satellite 115 supplying media content can be intercepted by a common satellite dish receiver 131 coupled to the building 102. Modulated signals intercepted by the satellite dish receiver 131 can be submitted to the media processors 106 for generating broadcast channels which can be presented at the media devices 108. The media processors 106 can be equipped with a broadband port to the ISP network 132 to enable infrastructure services such as VoD and EPG described above.

In yet another embodiment, an analog or digital broadcast distribution system such as cable TV system 133 can be used in place of the IPTV media system described above. In this embodiment the cable TV system 133 can provide Internet, telephony, and interactive media services.

It follows from the above illustrations that the present disclosure can apply to any present or future interactive overthe-air or landline media content services.

FIG. 2 depicts an illustrative embodiment of a communication system 200. employing an IP Multimedia Subsystem (IMS) network architecture to facilitate the combined services of circuit-switched and packet-switched systems. Communication system 200 can be overlaid or operably coupled with communication system 100 as another representative embodiment of communication system 100.

Communication system 200 can comprise a Home Subscriber Server (HSS) 240, a tElephone NUmber Mapping (ENUM) server 230, and other common network elements of an IMS network 250. The IMS network 250 can establish communications between IMS compliant communication devices (CD) 201, 202, Public Switched Telephone Network (PSTN) CDs 203, 205, and combinations thereof by way of a Media Gateway Control Function (MGCF) 220 coupled to a PSTN network 260.

IMS CDs 201, 202 can register with the IMS network 250 by contacting a Proxy Call Session Control Function (P-CSCF) which communicates with a corresponding Serving CSCF (S-CSCF) to register the CDs with at the HSS 240. To initiate a communication session between CDs, an originating IMS CD 201 can submit a Session Initiation Protocol (SIP INVITE) message to an originating P-CSCF 204 which communicates with a corresponding originating S-CSCF 206. The originating S-CSCF 206 can submit queries to the ENUM system 230 to translate an E.164 telephone number in the SIP INVITE to a SIP Uniform Resource Identifier (URI) if the terminating communication device is IMS compliant.

The SIP URI can be used by an Interrogating CSCF (I-CSCF) 207 to submit a query to the HSS 240 to identify a terminating S-CSCF 214 associated with a terminating IMS CD such as reference 202. Once identified, the I-CSCF 207 can submit the SIP INVITE to the terminating S-CSCF 214. The terminating S-CSCF 214 can then identify a terminating P-CSCF 216 associated with the terminating CD 202. The P-CSCF 216 then signals the CD 202 to establish communications.

If the terminating communication device is instead a PSTN CD such as references 203 or 205, the ENUM system 230 can respond with an unsuccessful address resolution which can cause the originating S-CSCF 206 to forward the call to the MGCF 220 via a Breakout Gateway Control Function (BGCF) 219. The MGCF 220 can then initiate the call to the terminating PSTN CD by common means over the PSTN network 260.

The aforementioned communication process is symmetrical. Accordingly, the terms "originating" and "terminating"

in FIG. 2 are interchangeable. It is further noted that communication system 200 can be adapted to support video conferencing by way of common protocols such as H.323. In addition, communication system 200 can be adapted to provide the IMS CDs 201, 203 the multimedia and Internet services of 5 communication system 100.

The server 130 of FIG. 1 can be operably coupled to the second communication system 200 for purposes similar to those described above.

FIG. 3 depicts an illustrative embodiment of a portal 302 which can operate from the computing devices 130 described earlier of communication 100 illustrated in FIG. 1. The portal 302 can be used for managing services of communication systems 100-200. The portal 302 can be accessed by a Uniform Resource Locator (URL) with a common Internet 15 browser such as Microsoft's Internet Explorer® using an Internet-capable communication device such as those described for FIGS. 1-2. The portal 302 can be configured, for example, to access a media processor 106 and services managed thereby such as a Digital Video Recorder (DVR), a VoD 20 catalog, an EPG, a personal catalog (such as personal videos, pictures, audio recordings, etc.) stored in the media processor, provisioning IMS services described earlier, provisioning Internet services, provisioning cellular phone services, and so

FIG. 4 depicts an exemplary embodiment of a communication device 400. Communication device 400 can serve in whole or in part as an illustrative embodiment of the communication devices of FIGS. 1-2. The communication device 400 can comprise a wireline and/or wireless transceiver 402 30 (herein transceiver 402), a user interface (UI) 404, a power supply 414, a location receiver 416, and a controller 406 for managing operations thereof. The transceiver 402 can support short-range or long-range wireless access technologies such as Bluetooth, WiFi, Digital Enhanced Cordless Tele- 35 communications (DECT), or cellular communication technologies, just to mention a few. Cellular technologies can include, for example, CDMA-1X, UMTS/HSDPA, GSM/ GPRS, TDMA/EDGE, EV/DO, WiMAX, SDR, and next generation cellular wireless communication technologies as 40 they arise. The transceiver 402 can also be adapted to support circuit-switched wireline access technologies (such as PSTN), packet-switched wireline access technologies (such as TCPIP, VoIP, etc.), and combinations thereof.

The UI 404 can include a depressible or touch-sensitive 45 keypad 408 with a navigation mechanism such as a roller ball, joystick, mouse, or navigation disk for manipulating operations of the communication device 400. The keypad 408 can be an integral part of a housing assembly of the communication device 400 or an independent device operably coupled 50 thereto by a tethered wireline interface (such as a USB cable) or a wireless interface supporting for example Bluetooth. The keypad 408 can represent a numeric dialing keypad commonly used by phones, and/or a Qwerty keypad with alphanumeric keys. The UI 404 can further include a display 410 55 such as monochrome or color LCD (Liquid Crystal Display), OLED (Organic Light Emitting Diode) or other suitable display technology for conveying images to an end user of the communication device 400. In an embodiment where the display 410 is touch-sensitive, a portion or all of the keypad 60 408 can be presented by way of the display.

The UI **404** can also include an audio system **412** that utilizes common audio technology for conveying low volume audio (such as audio heard only in the proximity of a human ear) and high volume audio (such as speakerphone for hands 65 free operation). The audio system **412** can further include a microphone for receiving audible signals of an end user. The

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audio system **412** can also be used for voice recognition applications. The UI **404** can further include an image sensor **413** such as a charged coupled device (CCD) camera for capturing still or moving images.

The power supply 414 can utilize common power management technologies such as replaceable and rechargeable batteries, supply regulation technologies, and charging system technologies for supplying energy to the components of the communication device 400 to facilitate long-range or short-range portable applications. The location receiver 416 can utilize common location technology such as a global positioning system (GPS) receiver for identifying a location of the communication device 400 based on signals generated by a constellation of GPS satellites, thereby facilitating common location services such as navigation.

The communication device **400** can use the transceiver **402** to also determine a proximity to a cellular, WiFi or Bluetooth access point by common power sensing techniques such as utilizing a received signal strength indicator (RSSI) and/or a signal time of arrival (TOA) or time of flight (TOF). The controller **406** can utilize computing technologies such as a microprocessor, a digital signal processor (DSP), and/or a video processor with associated storage memory such a Flash, ROM, RAM, SRAM, DRAM or other storage technologies.

The communication device 400 can be adapted to perform the functions of the media processor 106, the media devices 108, or the portable communication devices 116 of FIG. 1, as well as the IMS CDs 201-202 and PSTN CDs 203-205 of FIG. 2. It will be appreciated that the communication device 400 can also represent other common devices that can operate in communication systems 100-200 of FIGS. 1-2 such as a gaming console and a media player.

FIG. 5 depicts an illustrative embodiment of a system 500 for transmitting media content, the system 500 being operable in portions of the communications systems of FIGS. 1-2. The system 500 can include one or more media devices 502, 504, and 506, which can be configured to deliver media content to display devices 508a-c and deliver and/or receive media content from server 510, communications device 512, and computing device 514. The media devices 502, 504, and 506 can be STBs or other similar media devices. The display devices **508***a*-*c* can include any device capable of displaying and/or playing media content such as televisions, cellular phones, personal digital assistants (PDA), computers, and the like. The server 510 can be a computing device including the operative features of server 130, among other features. The communications device 512 can include, for example, a mobile device, a cellular phone, wireless device, or other communications device and the computing device 514 can be a computer or laptop.

The server 510 can be utilized to communicatively link the media devices 502, 504, and 506 to the other devices of the system 500. The server 510 can be configured to receive, transmit, maintain, and store various types of media content. Additionally, the server 510 can include a client program, which can be accessed, downloaded, and/or otherwise utilized by the devices in the system 500. The client program can present an overlay that can be superimposed onto media content that is displayed and/or received at the devices in the system 500. Users of the client program can use the client program to associate commentary/comments with the media content accessed by the user.

FIG. 6 depicts a screenshot 600 illustrating an example of commentary on a single, synchronized timeline. The screenshot 600 features a graphic user interface (GUI) in the form of an overlay generated by the client program. As will be dis-

cussed in more detail below, the overlay can include menu buttons 610, symbols such as iconic symbols including but not limited to avatars 620 and callouts 625, and other operative controls which are featured on the screenshot 600. The overlay can include a timeline 601, which can reflect the 5 entire duration of a media program playing at a user's media

As the screenshot 600 illustrates, comments have been inserted at various points in the timeline 601 of the media program. The iconic symbols such as colored spheres in the screenshot 600 can indicate that a comment has been inserted at that particular point in the timeline 601 of the media program. For example, a single comment 602, a single comment 604, a single comment 606, and four comments 608 have been inserted into the timeline 601. Once the user-generated 15 comments are associated with their respective media content, the user can utilize the client program to transmit the media content, commentary/comments, and/or links to the content and commentary to the server 510. The server 510 can be commentary, and/or links to the media content and commentary. Additionally, the server 510 can be configured to maintain information about the media content and commentary. If only the links to the media content are sent to the server 510, the server 510 can be configured to identify and extract the 25 actual media content associated with the link. Similarly, if only the links to the commentary are sent to the server 510, the server 510 can be configured to extract the actual commentary associated with the link.

The server 510 and/or the other devices in the system 500 30 can be configured to receive requests for the commentary and/or the media content from recipient media devices, which can be the devices in the system 500. For example, media device 502 can transmit a request to server 510 for media content and commentary from communications device 512. 35 When the server 510 receives a request from a recipient media device, the server 510 can transmit at least a portion of the actual media content and commentary and/or the links to the media content and commentary to the recipient media device. If only the links are sent to the recipient media device, the 40 recipient media device can access the media content and/or commentary via the links.

The recipient media device can then be configured to present the media content and/or commentary through a display device, such as display devices **508***a-c*. The users of the 45 recipient media device can utilize the client program much like the users of the media devices generating the commentary. Additionally, user-generated commentary and media content can be generated at the recipient media device and can be transmitted to other devices in the system 500 that request 50 the commentary and/or media content generated at the recipient media device.

In an embodiment, the server 510 can prompt a media device, such as media devices 502, 504, and 506, to set a range of the media content to be transmitted to the server 510. For 55 example, the media device can set a range of the media content, which is thirty seconds before and thirty seconds after any commentary associated with the media content. The range can be defined by vertical start and end lines within the timeline of the media program that is presented by the client 60 program, such as those surrounding comment 604 in FIG. 6. In another embodiment, the user of the media device can set the range without being prompted by the server 510. Moreover, the media device can temporally associate the usergenerated comments with the media content according to 65 timestamps associated with the requests. For example, if there is a timestamp at thirty seconds into a movie for a particular

request, the media device can insert or otherwise associate the comment at that point in the movie.

In an embodiment, the server 510 and/or other devices of the system 500 can be configured to identify clusters of comments in a media program. A user of a media device, such as media device 502, can cause the media device to request an identification of clusters with the most frequent commentaries in a media program. The user can request to export one or more of the clusters that are identified by the server 510. Much like as described above, each cluster can be exported with a range of the media program starting before the first comment and ending some time after the last comment in the cluster. Referring again to FIG. 6, the server 510 can identify that there is a cluster of four comments 608 in the particular media program. The cluster of four comments 608 and a range of the media content associated with the four comments 608 can be sent to the media device requesting the identification of the cluster.

In an embodiment, the symbolic overlay can comprise one configured to access, store, and maintain the media content. 20 of an avatar representation of each user, an actual image of each user, or combinations thereof, wherein one or more temporal actions of the user are expressed by way of one of the avatar representations 620 of each user, the actual image of each user, or combinations thereof. The gesture of the avatar corresponds to a motion of a body of the avatar, and the expression of the avatar comprises at least one of a plurality of expressions (see, for example, Mukesh having a happy face in FIG. 7). The symbolic overlay can also comprise an avatar representation of each user, such that when a user speaks, a message appears as a callout bubble 625 proximate to the user, an audio of the message, or a combination of both. The audio may comprise either real audio of the user's voice, or may be synthesized audio from the text generated by the user utilizing known techniques. For example, as shown in FIG. 6, Mukesh can say, "Hi Brian" into a microphone operably coupled to STB 502, and STB 502 can convert his speech into text. The text can then be displayed in a callout 625, while also playing the audio of his speech as well. However, the users can mute the audio, while continuing to have the text displayed.

> In an embodiment, when a user moves an input cursor 630, such as but not limited to, a mouse pointer, at or near one of the iconic symbols, such as one of the avatars 620, one of the corresponding callouts 625, one of the spheres 602, 604, 606, 608 on the timeline, or the like, a highlighting event is caused to occur. The highlighting event may comprise one of expanding the iconic symbol, providing a pop-up menu with selective options, or providing a communication log. Moreover, the highlighting event may comprise the avatar representation of a corresponding user changing color.

> As shown in the screenshot 700 of FIG. 7, the user, for example Mukesh, has moved the mouse pointer 630 over the avatar for Brian which can then expand as a highlighting event, as shown. In addition to or as a separate highlighting event, moving the mouse pointer 630 over the avatar for Brian may cause a pop-up menu 750 to appear; and the selective options may include, but are not limited to, viewing a particular user profile of, for example, Brian, changing the iconic symbol for Brian's avatar, viewing the communication log for Brian, or the like. Still further, in general, the pop-up menu can permit the changing of the type of iconic symbol to, for example, designate the comments on the timeline (note that in FIG. 7, the comment iconic symbols for comments 702, 704, 706 and 708 along the timeline 601 have been changed to stars) or callout balloons of the avatars, viewing a communication log of all users, viewing a two-way communication log between two particular users, or changing a format of the

communication log. All of the user-generated comments associated with at least one symbol or icon may be listed chronologically. Moreover, a left click of a mouse may produce the pop-up menu with selective options and a right click of the mouse may produce the communication log, or vice 5

With reference to the comment icons 602, 604, 606 and 608 situated on the timeline 601, the mouse pointer 630 may be moved over a particular comment icon on the timeline 601, and the highlighting event may comprise producing a com- 10 munication log showing all comments made by a particular user that corresponds to the particular comment icon. Thus, for example, moving the mouse pointer 630 over comment icon 606 can show all the comments made by Mukesh as shown at **640**. In this example, the comment icon **606** is also expanded when the pointer 630 is moved over it. Moreover, running the mouse pointer 630 over the comment icon on the timeline 601 may produce a communication log up to a point on the timeline 601 where the comment icon is situated. In this way, the communication log can be limited to commen- 20 taries based on the time position of the comment and all previous communications. Communications after the particular comment icon highlighted would not be displayed. This can differ from a communication log generated by highlighting an avatar 620, for example, which may show the 25 entire timeline. A user may also selectively choose certain users to view in the communications log. The communication log can be scrollable, so that a user can scroll through all the user comments generated during the media program.

FIG. 8 depicts an illustrative embodiment of a method for 30 transmitting media content operating in portions of the communication systems of FIGS. 1-2 and 5. For example, at step 802, each of a plurality of users is presented with a media program or media content. At step 804, the server 510, for example, collects one or more temporal actions initiated by 35 the plurality of users while the media program is presented. At step 806, the client program included in the server 510 creates one or more symbolic overlays corresponding to the one or more temporal actions of each user. At step 808, the client program combines the presentation of the media program 40 with a presentation of the one or more symbolic overlays. At step 810, an input device cursor, such as a mouse pointer 630, is detected at or near an iconic symbol of the presentation of the one or more symbolic overlays. At step 812, the action of the mouse pointer causes a highlighting event to occur. As 45 noted above, the highlighting event may comprise, but is not limited to, one of expanding the iconic symbol, providing a pop-up menu with selective options, or providing a communication log.

Upon reviewing the aforementioned embodiments, it 50 would be evident to an artisan with ordinary skill in the art that said embodiments can be modified, reduced, or enhanced without departing from the scope and spirit of the claims described below. For example, the media evaluation and overlay technique is not limited to video content such as movies, 55 disclosure, the methods described herein are intended for but can also be applied to audio-only content, video (with no audio) content, MTV programming, or the like.

Other suitable modifications can be applied to the present disclosure without departing from the scope of the claims below. Accordingly, the reader is directed to the claims sec- 60 tion for a fuller understanding of the breadth and scope of the present disclosure.

FIG. 9 depicts an exemplary diagrammatic representation of a machine in the form of a computer system 900 within which a set of instructions, when executed, may cause the 65 machine to perform any one or more of the methodologies discussed above. In some embodiments, the machine oper10

ates as a standalone device. In some embodiments, the machine may be connected (e.g., using a network) to other machines. In a networked deployment, the machine may operate in the capacity of a server or a client user machine in server-client user network environment, or as a peer machine in a peer-to-peer (or distributed) network environment.

The machine may comprise a server computer, a client user computer, a personal computer (PC), a tablet PC, a laptop computer, a desktop computer, a control system, a network router, switch or bridge, or any machine capable of executing a set of instructions (sequential or otherwise) that specify actions to be taken by that machine. It will be understood that a device of the present disclosure includes broadly any electronic device that provides voice, video or data communication. Further, while a single machine is illustrated, the term "machine" shall also be taken to include any collection of machines that individually or jointly execute a set (or multiple sets) of instructions to perform any one or more of the methodologies discussed herein.

The computer system 900 may include a processor 902 (e.g., a central processing unit (CPU), a graphics processing unit (GPU, or both), a main memory 904 and a static memory 906, which communicate with each other via a bus 908. The computer system 900 may further include a video display unit 910 (e.g., a liquid crystal display (LCD), a flat panel, a solid state display, or a cathode ray tube (CRT)). The computer system 900 may include an input device 912 (e.g., a keyboard), a cursor control device 914 (e.g., a mouse), a disk drive unit 916, a signal generation device 918 (e.g., a speaker or remote control) and a network interface device 920.

The disk drive unit **916** may include a machine-readable medium 922 on which is stored one or more sets of instructions (e.g., software 924) embodying any one or more of the methodologies or functions described herein, including those methods illustrated above. The instructions 924 may also reside, completely or at least partially, within the main memory 904, the static memory 906, and/or within the processor 902 during execution thereof by the computer system 900. The main memory 904 and the processor 902 also may constitute machine-readable media.

Dedicated hardware implementations including, but not limited to, application specific integrated circuits, programmable logic arrays and other hardware devices can likewise be constructed to implement the methods described herein. Applications that may include the apparatus and systems of various embodiments broadly include a variety of electronic and computer systems. Some embodiments implement functions in two or more specific interconnected hardware modules or devices with related control and data signals communicated between and through the modules, or as portions of an application-specific integrated circuit. Thus, the example system is applicable to software, firmware, and hardware implementations.

In accordance with various embodiments of the present operation as software programs running on a computer processor. Furthermore, software implementations can include, but not limited to, distributed processing or component/object distributed processing, parallel processing, or virtual machine processing can also be constructed to implement the methods described herein.

The present disclosure contemplates a machine readable medium containing instructions 924, or that which receives and executes instructions 924 from a propagated signal so that a device connected to a network environment 926 can send or receive voice, video or data, and to communicate over the network 926 using the instructions 924. The instructions 924

may further be transmitted or received over a network 926 via the network interface device 920.

While the machine-readable medium 922 is shown in an example embodiment to be a single medium, the term "machine-readable medium" should be taken to include a single medium or multiple media (e.g., a centralized or distributed database, and/or associated caches and servers) that store the one or more sets of instructions. The term "machine-readable medium" shall also be taken to include any medium that is capable of storing, encoding or carrying a set of instructions for execution by the machine and that cause the machine to perform any one or more of the methodologies of the present disclosure.

The term "machine-readable medium" shall accordingly be taken to include, but not be limited to: solid-state memories 15 such as a memory card or other package that houses one or more read-only (non-volatile) memories, random access memories, or other re-writable (volatile) memories; magneto-optical or optical medium such as a disk or tape; and/or a digital file attachment to e-mail or other self-contained 20 information archive or set of archives is considered a distribution medium equivalent to a tangible storage medium. Accordingly, the disclosure is considered to include any one or more of a machine-readable medium or a distribution medium, as listed herein and including art-recognized 25 equivalents and successor media, in which the software implementations herein are stored.

Although the present specification describes components and functions implemented in the embodiments with reference to particular standards and protocols, the disclosure is 30 not limited to such standards and protocols. Each of the standards for Internet and other packet switched network transmission (e.g., TCP/IP, UDP/IP, HTML, HTTP) represent examples of the state of the art. Such standards are periodically superseded by faster or more efficient equivalents having essentially the same functions. Accordingly, replacement standards and protocols having the same functions are considered equivalents.

The illustrations of embodiments described herein are intended to provide a general understanding of the structure 40 of various embodiments, and they are not intended to serve as a complete description of all the elements and features of apparatus and systems that might make use of the structures described herein. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. Other embodiments may be utilized and derived therefrom, such that structural and logical substitutions and changes may be made without departing from the scope of this disclosure. Figures are also merely representational and may not be drawn to scale. Certain proportions thereof may 50 be exaggerated, while others may be minimized. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

Such embodiments of the inventive subject matter may be referred to herein, individually and/or collectively, by the 55 term "invention" merely for convenience and without intending to voluntarily limit the scope of this application to any single invention or inventive concept if more than one is in fact disclosed. Thus, although specific embodiments have been illustrated and described herein, it should be appreciated 60 that any arrangement calculated to achieve the same purpose may be substituted for the specific embodiments shown. This disclosure is intended to cover any and all adaptations or variations of various embodiments. Combinations of the above embodiments, and other embodiments not specifically 65 described herein, will be apparent to those of skill in the art upon reviewing the above description.

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The Abstract of the Disclosure is provided to comply with 37 C.F.R. §1.72(b), requiring an abstract that will allow the reader to quickly ascertain the nature of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. In addition, in the foregoing Detailed Description, it can be seen that various features are grouped together in a single embodiment for the purpose of streamlining the disclosure. This method of disclosure is not to be interpreted as reflecting an intention that the claimed embodiments require more features than are expressly recited in each claim. Rather, as the following claims reflect, inventive subject matter lies in less than all features of a single disclosed embodiment. Thus the following claims are hereby incorporated into the Detailed Description, with each claim standing on its own as a separately claimed subject matter.

What is claimed is:

- 1. A method, comprising:
- determining, by a system comprising a processor, a temporal action initiated by equipment of a user of a plurality of users, while a media program is presented to a display device;
- generating, by the system, a symbolic overlay from the temporal action, wherein the symbolic overlay comprises an iconic symbol; and
- providing, by the system, the symbolic overlay that when presented together with the media program at the display comprises a linear presentation of a timeline, wherein the timeline corresponds to a temporal progression of the media program; and
- determining an input cursor located at or near a symbol of the presentation of the symbolic overlay, wherein the iconic symbol is situated in relation to the linear presentation of the timeline when presented at the display.
- 2. The method of claim 1, wherein the media program corresponds to a video stream, an audio stream, a sequence of still images, a sequence of text images, or combinations thereof, the method further comprising detecting, by the system an input cursor located at or near the iconic symbol of the presentation, wherein the temporal action is initiated in response to an audible signal of an end user, a movement of an input cursor of a graphical user interface, receipt of comment from the end user, or a combination thereof.
- 3. The method of claim 1, further comprising causing, by the system, a display event to occur responsive to the input cursor located at or near the iconic symbol when displayed, wherein the display event comprises expanding the iconic symbol, providing a pop-up menu with selective options, or providing a communication log.
- 4. The method of claim 3, wherein the selective options of the pop-up menu comprise viewing a user profile of a particular user of the plurality of users, changing of the iconic symbol, viewing a communication log of users of the plurality of users, viewing a two-way communication log between two particular users of the plurality of users, or a combination thereof.
- 5. The method of claim 3, wherein the selective options of the pop-up menu are displayed in response to a left click or a right click of a mouse produces and wherein the communication log is produced in response to another of the left click or the right click of the mouse.
- **6**. The method of claim **1**, wherein the iconic symbol is a comment icon situated relative to the linear presentation of the timeline, the input cursor is located over the comment icon on the linear presentation of the timeline and producing a communications log up to a point on the linear presentation of the timeline where the comment icon is situated.

- 7. The method of claim 6, further comprising determining a selection of certain users of the plurality of users to be represented in the communications log, wherein the comment icon is responsive to a comment request presented as a timestamp in relation to the media program.
- 8. The method of claim 1, wherein the symbolic overlay comprises an avatar representation of the user, an actual image of the user, or combinations thereof, wherein the temporal action is expressed by way of the avatar representation of the user, the actual image of the user, or combinations 10 thereof, wherein a gesture of the avatar corresponds to a motion of a body of the avatar, and wherein an expression of the avatar comprises an expression of a plurality of expressions.
- **9**. The method of claim **1**, wherein the symbolic overlay 15 comprises an avatar representation of the user, and wherein when the user speaks, a message appears as a callout bubble proximate to the user, or as an audio of the message.
- 10. The method of claim 9, wherein the audio comprises real audio or synthesized audio from text generated by the 20 equipment of the user.
- 11. The method of claim 1, wherein the symbolic overlay is presented to equipment of the plurality of users, and wherein the symbolic overlay includes the iconic symbol depicting the temporal action.
- 12. The method of claim 11, wherein the depictions of a corresponding symbolic overlay are selectable by a subset of the plurality of users of the corresponding symbolic overlay.
- 13. The method of claim 1, wherein the symbolic overlay comprises an avatar representation of the user, and wherein 30 responsive to a mouse pointer positioned over the avatar representation of the user, the avatar representation of the user changes color.
- 14. The method of claim 1, wherein the iconic symbol comprises a comment icon situated on the linear presentation 35 of the timeline presented by the presentation of the symbolic overlay, and further comprising causing, by the system, an event to occur, responsive to positioning of a mouse pointer over the comment icon, wherein the event comprises production of a communications log showing comments made by all users of the plurality of user that correspond to the comment icon
- 15. A non-transitory machine-readable storage device, comprising executable instructions which, responsive to being executed by a processor, cause the processor to perform 45 operations comprising:

determining temporal actions initiated at equipment of a plurality of users while providing media content to the equipment of the plurality of users;

providing a symbolic overlay generated from the temporal 50 actions that when presented at a display together with

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the media content comprises a linear presentation of a timeline, wherein the timeline corresponds to a temporal progression of presentation of the media content; and

determining an input cursor located at or near a symbol of the presentation of the symbolic overlay, wherein the symbol is situated in relation to the linear presentation of the timeline when presented at the display.

- 16. The non-transitory machine-readable storage device of claim 15, wherein the operations further comprise causing an event to occur, wherein the event comprises expanding the symbol, providing a pop-up menu with selective options, or providing a communications log.
- 17. The non-transitory machine-readable storage device of claim 15, wherein the media content comprises video content, audio-only content, video with no audio content, or a combination thereof, wherein the symbolic overlay is presentable on a display device of the equipment of the user together with a presentation of the media content, and wherein the symbolic overlay comprises a menu button, an iconic symbol including an avatar, a callout or both, an operative control, a timeline, or combinations thereof.
  - 18. A device, comprising:

a memory storing executable instructions; and

a controller coupled to the memory, wherein the controller, responsive to executing the instructions, performs operations comprising:

providing a client program having a graphical user interface to a media device, wherein the client program presents a symbolic overlay comprising a linear presentation of a timeline corresponding to a temporal progression of a presentation of media content received by the media device that superimposes the symbolic overlay onto the media content received by the media device and enables the media device to associate a comment with the media content received by the media device, and wherein the comment is presented by a symbol situated relative to the linear presentation of the timeline corresponding to the temporal progression of the media content.

- 19. The device of claim 18, wherein the operations further comprise: performing a display event in response to detecting an input cursor located at or near the symbol, wherein the display event is viewable on a display and comprises expanding the symbol, providing a pop-up menu with selective options, or providing a communications log.
- 20. The device of claim 19, wherein when the pop-up menu with selective options is presented, and wherein the comments associated with the symbol are listed chronologically.

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